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REPORT
TO
PARKING AUTHORITY OF SAN FRANCISCO
ON
PROPOSED PARKING LOTS
IN
WEST PORTAL DISTRICT

JULY 1951

PARKING AUTHORITY OF S. F.
500 GOLDEN GATE AVE. 11
SAN FRANCISCO 2, CALIFORNIA

BUREAU OF ENGINEERING
DEPARTMENT OF PUBLIC WORKS
CITY AND COUNTY OF SAN FRANCISCO

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REPORT ON
PROPOSED PARKING LOTS
IN WEST PORTAL SHOPPING DISTRICT

INTRODUCTION

This report presents the results of a parking survey in the West Portal Shopping District and a study of the feasibility of establishing one or more parking lots to provide accommodations for additional shoppers.

The district embraces both sides of West Portal Avenue from Ulloa Street to 15th Avenue, a distance of three blocks or about 2100 feet. Good mass transportation is provided by the K and M street car lines which run the full length of the street. Diagonal parking with parking meters is provided on both sides.

The wide variety of markets, shops and service facilities together with three banks and one motion picture theater have made this district one of the most active in the western part of San Francisco. It compares favorably in size and volume of business with the central business district of a city of 25,000 people.

West Portal Ave., Portola Drive to the south and Wawona Street to the north run more or less parallel to the contours of the hillside and are fairly level, but there is a very

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decided grade on the cross streets. West Portal Avenue drops sharply from Portola Drive and Wawona Street is an average of 15 ft. lower than West Portal Ave. This is an important consideration from the point of view of parking facilities because the difficulty of parking on a grade or walking up a hill often discourages use of available facilities.

PARKING SURVEY

As a basis for measuring present usage of parking spaces and estimating probable additional demand, a survey of 13 block faces was made from 9 a.m. to 6 p.m. on a weekday in May of this year. Vehicles occupying all stalls were recorded at 15 minute intervals. From this information it was possible to determine the number of stalls which were occupied at any time and the number of parkers who used each stall during the 9-hour period of the survey. The results of this survey are shown graphically on the five charts submitted herewith designated sheets 1 to 5 inclusive.

OCCUPANCY OF PRESENT PARKING STALLS

Sheet 1 shows the results of the occupancy study on each face of the blocks surveyed. It will be noted that on West Portal Ave., bet. Ulloa St. & 14th Ave., the occupancy rate (9:00 a.m. to 6 p.m.) varied from 86.0 to 90.7 percent. In the last block of West Portal Ave., 14th Ave., to 15th Ave., the occupancy rate was only 50.6%. This indicates that parking is not a problem in the last block and that the need

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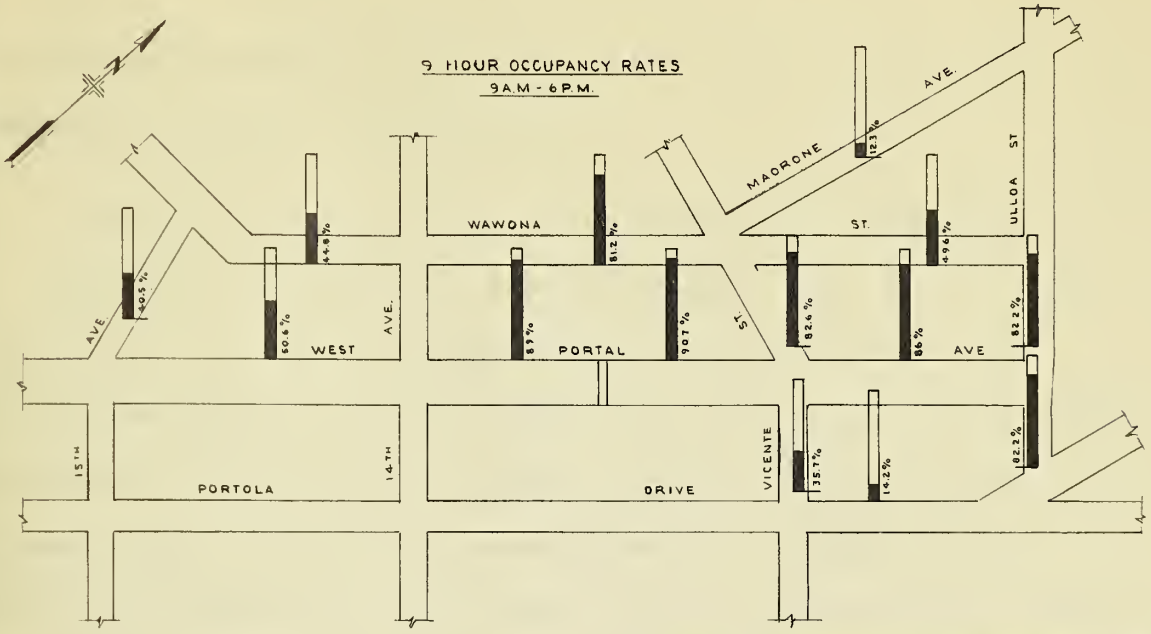
9 HOUR OCCUPANCY RATES
9 A.M. - 6 P.M.



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CITY AND COUNTY OF SAN FRANCISCO
DEPARTMENT OF PUBLIC WORKS - BUREAU OF ENGINEERING
WEST PORTAL PARKING SURVEY
9 HOUR OCCUPANCY RATES

APPROVED Ralph E. Wadsworth
DATE CITY ENGINEER

SCALE
SHEET OF 6 SHEETS
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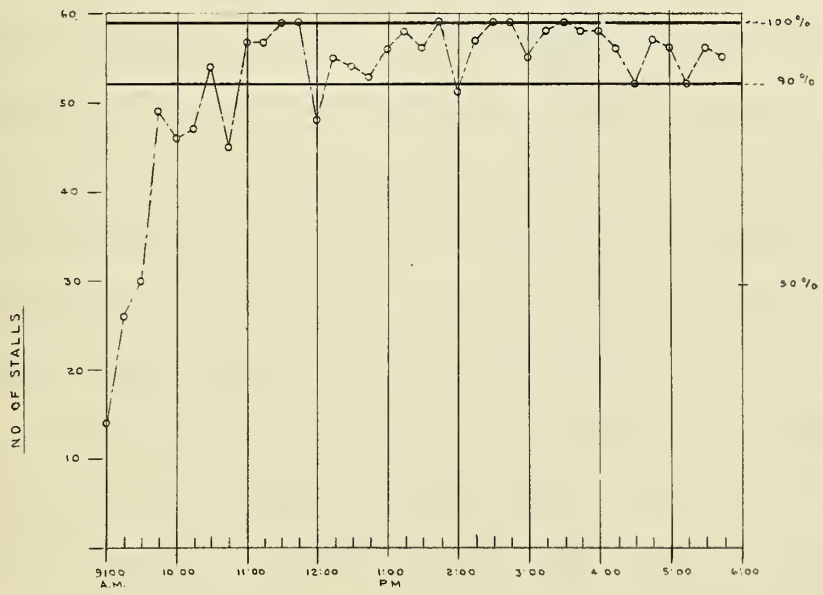

NOTE
Stalls surveyed are on the north side of West Portal Ave between Ulloa St & 14th Ave

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WEST PORTAL PARKING SURVEY
PARKING METER OCCUPANCY WEST PORTAL AVE.

APPROVED Ralph E. Wadsworth
DATE CITY ENGINEER

SCALE
SHEET 2 OF 6 SHEETS
FILE STR 1808 1
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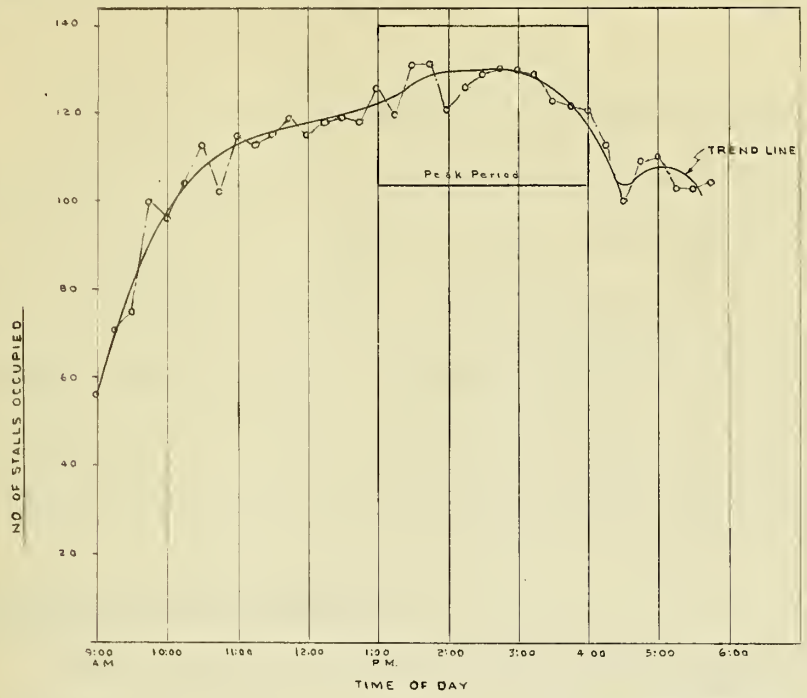
of additional parking facilities is confined to the area between Ulloa Street and 14th Ave.

Sheet 2 shows percentage occupancies on West Portal Ave., Ulloa St. to 14th Ave., at different times of the day. From 11 a.m. to 6 p.m. occupancy of the meter spaces runs between 90% and 100% and averages about 95%. This chart shows no definite peak period. However, Sheet 3, which is an occupancy graph of all the parking spaces surveyed, both metered and unmetered, shows that a peak period for the whole area occurs between 1 p.m. to 4 p.m. The fact that this peak does not appear on Sheet 2, indicates that there is a potential demand for parking in excess of present parking facilities in the two blocks between Ulloa Street and 14th Avenue.

At this point some mention should be made of walking distance. The Highway Research Board in a recent report concerning parking surveys, states that in the central business districts of cities of 25,000 to 50,000 people, 78% of the parkers will walk 400 feet or less to their destination. The present occupancy study shows that this situation holds approximately true at West Portal. From 1 to 4 p.m., during the period of peak demand, from one to four stalls were always empty in the first six stalls on Wawona St., east of Vicent, (1 hour limit parking). Since these stalls are approximately 350 feet from the nearest stores and were not fully occupied, it can be assumed that 400 ft. is a reasonable maximum walking distance for this area.



NOTE

1. Nº of stalls surveyed - 182
2. Area includes - Wawona St, Medrone Ave, West Portal Ave, Portola Drive, Ulloa St, Vicente St, 14th & 15th Aves

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CITY AND COUNTY OF SAN FRANCISCO
DEPARTMENT OF PUBLIC WORKS - BUREAU OF ENGINEERING
WEST PORTAL PARKING SURVEY
OCCUPANCY OF ALL STALLS SURVEYED

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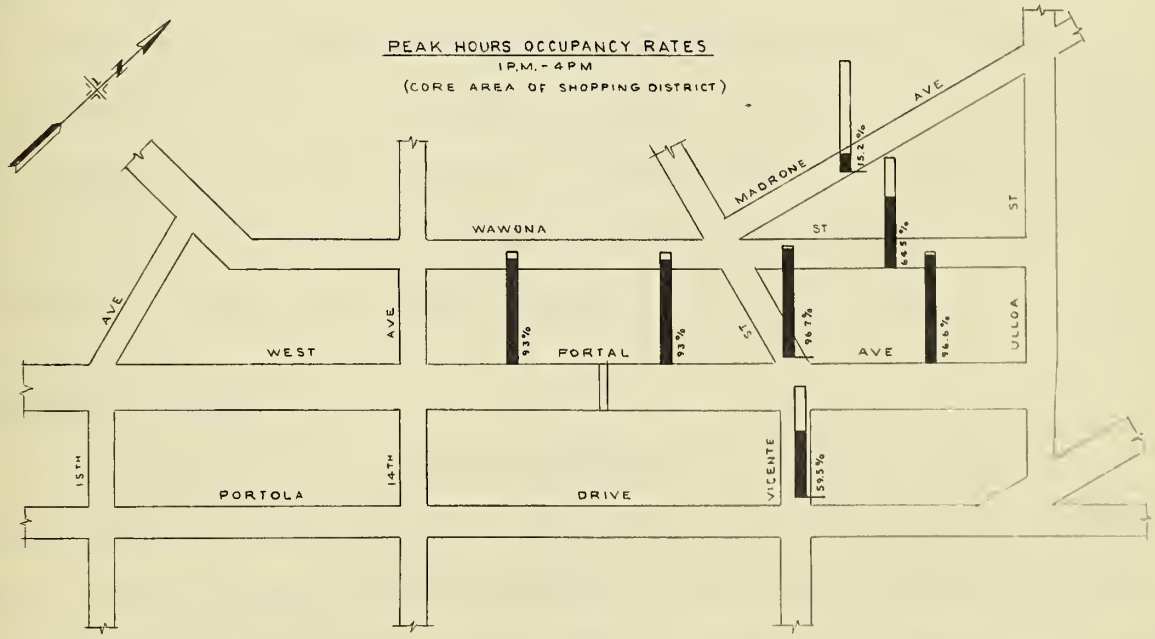

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CITY AND COUNTY OF SAN FRANCISCO
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WEST PORTAL PARKING SURVEY
PEAK HOURS OCCUPANCY RATES

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As used in this report, maximum walking distance is interpreted to mean the distance from the center of the parking lot or facility to a limit of 400 feet therefrom, disregarding widths of streets crossed. For instance a lot on Vicente St., at Wawona would involve walking 150 feet on Vicente St., to the intersection of West Portal Avenue and 250 feet each way from the intersection on both sides of the street.

ANALYSIS OF TURN-OVER DATA

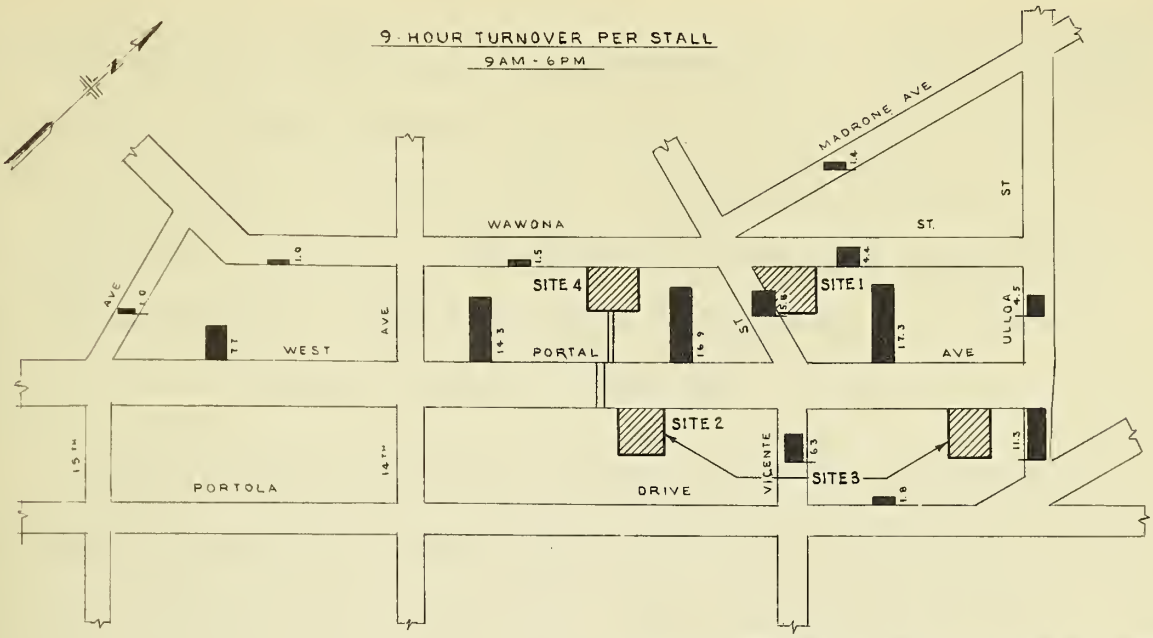
The turn-over figures for the several block faces in this study are shown on Sheet 5. They show a very high turn-over rate for the parking meters on West Portal Ave., 14th Ave., to Ulloa St., ranging from 14.3 to 17.3 vehicles for the 9-hour period of the survey. On parallel adjacent streets, the turn-over is much lower ranging from 1.0 in the no-limit areas to 4.4 in the 1-hour parking areas. Applying the turn-over rates to both the surveyed and unsurveyed curb spaces, it is found that present parking spaces are used by approximately 2900 parkers per day. Taking only the first two blocks on West Portal Ave., and the cross street blocks immediately adjacent to them, the usage is 2470 parkers per day.

ADDITIONAL DEMAND

If an off-street parking facility or additional on-street parking are provided, there will be a certain generated demand. The Highway Research Board report previously mentioned shows that, in the central business district of cities of 25,000

9 HOUR TURNOVER PER STALL

9AM - 6PM



PROPOSED PARKING LOT SITES SHOWN THUS ▨

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CITY AND COUNTY OF SAN FRANCISCO
DEPARTMENT OF PUBLIC WORKS - BUREAU OF ENGINEERING

WEST PORTAL PARKING SURVEY
ON STREET PARKING TURNOVER RATE

APPROVED Ralph Wadsworth CITY ENGINEER
DATE

SCALE
SHEET 5 OF 6 SHEETS

FILE STR 1808 4

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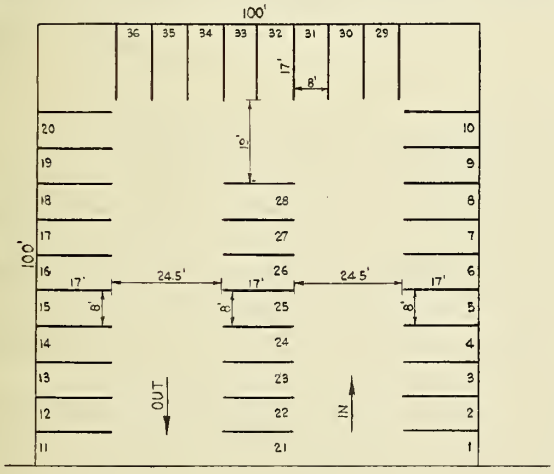
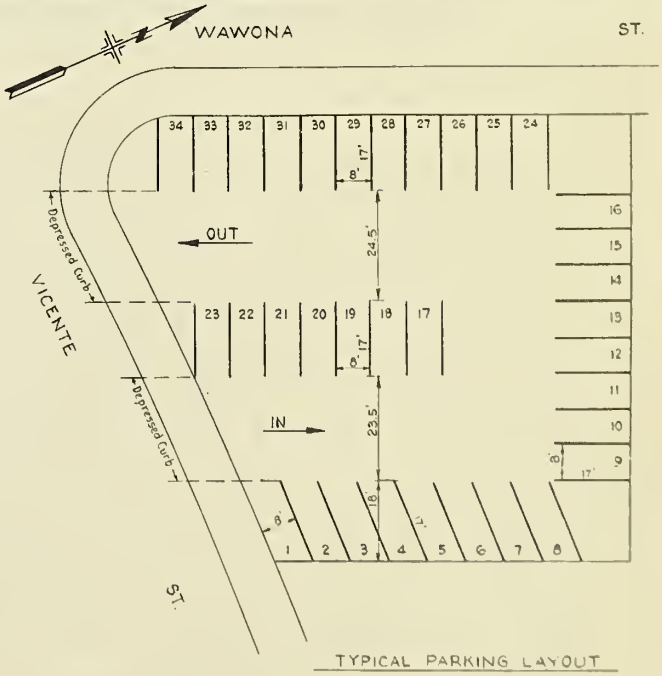


TYPICAL PARKING LOT
SELF PARKING



TYPICAL PARKING LAYOUT
SITE 1

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CITY AND COUNTY OF SAN FRANCISCO
DEPARTMENT OF PUBLIC WORKS - BUREAU OF ENGINEERING

WEST PORTAL PARKING SURVEY
TYPICAL PARKING LOT LAYOUTS

APPROVED Ralph Wadsworth CITY ENGINEER
DATE

SCALE
SHEET 6 OF 6 SHEETS

FILE STR 1808 5

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to 50,000 people, the space-hour demand is 1.31 times the space-hour supply, giving a generating factor of .31 if all the demand is to be met. In the present study a generating factor of .25 has been assumed. This factor is based on the premise that the additional parking space will be available without charge or at a charge no greater than that for meters.

The assumed generating factor of .25 is intended to make some allowance for the effect of future competitive shopping centers in the vicinity. The free parking to be offered in new developments such as Stonestown, Lakeshore and Westlake shopping districts may draw off enough business from West Portal to reduce the generating factor still lower. On the other hand, the West Portal district has prospered in the past in spite of competition from Taraval Street and Ocean Avenue, which were closer than the new centers now being developed.

Applying the assumed generating factor to the present parking space usage of 2470 parkers per day, it is found that spaces for 618 new parkers can be utilized, provided the new spaces are located within about 400 feet walking distance from all businesses between Ulloa Street and 14th Avenue. In these two blocks, the business frontage needing additional parking amounts to about 2400 feet. Dividing it into 100-foot units, we find that the present parking is 103 parkers per 100 ft. of business frontage per day and the generation of new parkers

would be 25.8 parkers per 100 ft. of business frontage per day.

PARKING LOT SITES

Consideration has been given to four possible parking lot locations as follows:

Site 1. - Lot located at the southeast corner of Wawona and Vicente Streets. A lot located at this point would serve approximately 1000 ft. of business frontage and provide additional parking for the frontage merchants equal to 10 times 25.8 or 258 parkers.

The turnover shown on Sheet 5 on Vicente St. is 5.8 and on Wawona Street 4.4. Wawona Street has one-hour parking but no meters. Vicente Street has 2 meters with a turnover of 12. A turnover of 8 for a metered lot at the corner of these streets would be conservative. For 258 parkers at a turnover of 8, approximately 32 parking spaces would be needed.

Site 2. - Lot located on south side of West Portal Ave. in the center of the block between 14th Ave., and Vicente St. This lot would have within its influence range about 1400 ft. of business frontage and would generate additional parking demand equal to 14 x 25.8 or 360 parkers per day. While the turnover on West Portal Avenue is now about 15 in this vicinity, this is for curb space that would have preference over lot space. With one-hour parking permitted in the lot and with its principal use confined to the 8 hours from 10 a.m. to 6 p.m., it is believed a turnover of no more than 12 would be realized. At this rate 36 parking spaces would be required.

Site 3. - One lot located in each of 2 blocks on the south side of West Portal Ave. These locations would serve the entire 2400 feet of business frontage and would generate an additional demand of 24 x 25.8 or 618 parkers per day. With a turnover of 12 these lots would require 52 parking spaces.

Site 4. - Lot on Wawona Street at the rear of the Tunnel Market with a passageway for pedestrians leading to West Portal Avenue adjoining the market. This lot would serve about 1200 ft. of business frontage and would generate an additional demand of 12 x 25.8 or 310 parkers per day. With a turnover of 8, the same as Site 1, this lot would require 39 parking spaces. A prime reason for the selection of this particular location is that it is near the center of the mid-block cross-walk on West Portal Avenue.

ALTERNATIVE TO SITE ACQUISITION

An alternate suggestion involves the acquisition of a pedestrian easement about 10 feet in width in the center of the block between 14th Avenue and Vicente Street, similar to that mentioned above, so that additional parkers could use the curb space on Wawona Street with direct access to West Portal Avenue. This alternate suggestion would require the establishment of 1-hour parking. It would make approximately 30 parking spaces available which, with a turnover of 4.4, would serve 132 additional parkers per day. With parking meters, the turnover would be somewhat higher. The difficulty with this suggestion

is that the Parking Authority probably would not have the power to acquire property for a pedestrian-way not directly pertaining to a parking lot.

PARKING LOT REQUIREMENTS AND FACILITIES

The desirable minimum sized parking lot should be about 100 feet square and should have two points of access so as to permit continuous circulation of cars through the lot. A typical layout is shown on Sheet 6. A total street frontage of 116 feet is highly desirable, since this will accommodate two parking units 58 feet wide, each composed of two rows of parking spaces 17 feet deep with a 24-foot passageway between them.

It is believed that the only way of assuring reasonable turnover, without incurring the expense of continuous attendance, is to provide a parking meter for each stall. A certain amount of enforcement would still be necessary, but this probably could be secured through the Police Department, provided official action is taken to declare the lots to be public places.

SUGGESTED SPECIFIC LOCATIONS

The following specific locations have been chosen for the purpose of this study to fit the general location of the four sites previously mentioned. They are indicated on Sheet 5.

Site Descriptions

No. 1 - Lot approximately 100' x 100' at southeast corner of Wawona and Vicente Streets, requiring acquisition of residential property. Irregular shaped lot - Vicente 101' frontage; Wawona 117' frontage; 80' rear width. A possible layout of parking stalls is shown on Sheet 6.

No. 2 - Lot on the south side of West Portal Avenue, 260 feet west of Vicente Street 100' x 100', requiring acquisition of business property.

No. 3 - Two lots on the south side of West Portal Avenue, both requiring acquisition of business property. One lot 260 feet west of Vicente Street 100' x 100' and one lot 85 feet west of Ulloa Street, approximately 96' x 92'.

No. 4. - Lot on Wawona Street between 14th Avenue and Vicente Street 116' x 96' with passageway alongside or through Tunnel Market to give direct access to West Portal Avenue frontage, requiring acquisition of residential property.

All these sites are on the lowest or nearly the lowest cost property on the frontage in the vicinity. The residence property has the lowest value improvements. The business property on Site 2 has only one-story stores and on Site 3 has partial 2-story construction but the store and second story does not cover the entire lot, having a driveway around the building, with parking garages in the rear.

The lots described will have approximately the capacity previously indicated as the desirable capacity. The following table summarizes the figures previously given for demand, turnover and required capacity, and also indicates in the last column the number of stalls which can be provided at each one of the specific locations described.

TABLE I

PROPOSED PARKING LOT SITES

Summary of Demand and Parking Spaces

Site	Demand Parkers	Turnover per Space	Stalls Required	Stalls Proposed
No.1 - SE. Corner Wawona and Vicente Streets	258	8	32	32
No.2 - West Portal Avenue, bet. 14th Avenue & Vicente	360	12	30	32
No.3 - Two Lots on West Portal Avenue, South side	618	12	52	60
No.4 - Wawona Street, bet. 14th Avenue & Vicente	310	8	39	44

ESTIMATED INITIAL COSTS

A preliminary estimate, based largely on assessed valuations, has been made of the cost of acquiring the property needed for each of the various lots described above. No accurate appraisal by the Real Estate Department has been requested, since accurate figures do not appear to be necessary to compare the relative merits of the different sites. Some time prior to taking definite action, it is assumed that the Parking Authority will secure accurate appraisals by the Real Estate Department on the particular sites believed to justify further study.

The estimated costs of property acquisition are as follows:

Site 1

Corner Wawona and Vicente Lots 11, 12 and 13 - Block No. 2931	$ 56,000

Site 2

West Portal bet. Vicente and 14th Ave. Lots 26, 27 and 27A, Block 2989B	$160,000

Site 3

West Portal - Two Lots Lots 26, 27 & 27A Block 2989B Lot 27, Block 2979A	$245,000

Site 4

Wawona bet. Vicente & 14th Avenue Lots 25, 25A and 26, Block 2988A	$ 45,000

Each of the sites will require certain improvements such as paving, fencing, lights, meters, etc. Table II gives an estimate of the cost of the needed improvements for each site and also includes the above mentioned figures for land acquisition, together with the total required capital investment.

TABLE II

CAPITAL INVESTMENT - LAND, PAVING & EQUIPMENT

ITEM	SITE 1	SITE 2	SITE 3	SITE 4
Area Sq.Ft.	10,000	10,000	18,800	11,600
Paving at 25 ¢ (Incl. Subgrade)	$ 2,500	$ 2,500	$ 4,700	$ 2,900
Fencing	2,000	1,000	2,000	2,000
Retaining Walls,etc.	-	15,000	30,000	3,000
Misc. (light etc.)	3,500	3,500	7,000	4,000
Meters at $75	2,400	2,400	4,500	3,300
Total Pav.& Equip.	$10,400	24,400	48,200	15,200
Land Cost	56,000	160,000	245,000	45,000
Total Investment	$66,400	184,400	293,200	60,200
No. of Stalls	32	32	60	44
Cost per Stall	$ 2,080	$ 5,780	$ 4,890	$ 1,380

PARKING METER OPERATION

Because other new business districts propose to offer free parking, it is believed that, to keep West Portal on a good competitive basis, the lowest possible parking charges should be adopted, such as a parking meter rate of one hour for five cents. It is probable that a lot will get little use at rates materially higher than the present curb meter rates. On the other hand, the cost of a "free parking" lot would probably be too high to be self liquidating solely through assessments on the merchants of the district.

A special type of meter, offering an automatic receipt for a 5 ¢ charge, would be desirable. The merchants could then offer to accept these receipts and give the customer parker credit of say 5 cents on a purchase of $1 or more. The collected tickets could be turned in to the association by the merchants and applied in whole or in part on his contribution to the association.

It is believed that arrangements can be made by the Parking Authority to have the City Tax Collector make the collections from the parking lot meters on a work order basis.

The amounts collected less collection cost would presumably be turned over to the Parking Authority and credited to the account of the merchants' association. It is assumed that some type of lease arrangement will be worked out by which the merchants will guarantee annual payments sufficient to amortize the investment over a period of years.

INCOME FROM PARKING METERS

An indication of the probable income to be derived from the parking meters can be obtained from a review of the present rate of collection from the meters now installed in the West Portal District. The following information is based on records furnished by the Chief Administrator's Office.

TABLE III

WEST PORTAL PARKING METER RECEIPTS

1951	No. of Meters	Receipts	Working Days	Meter Daily Average
Jan.	193	1,592.75	26	$ .32
Feb.	193	1,486.23	22	.35
Mar.	193	1,873.32	27	.36
Average daily collection per meter				$ .34

The average collection of $ .34 per meter per day applies to the whole of West Portal Avenue and portions of the side streets. Since the average turnover in this area is about 13, the average amount paid by each parker is 2.6 ¢. Applying this rate to the number of parkers anticipated for each of the proposed parking lot sites, the probable annual revenue in each case is derived as shown in the following table.

TABLE IV

ANNUAL PARKING METER REVENUE

	SITE 1	SITE 2	SITE 3	SITE 4
No. of Parkers	258	360	618	310
Daily rev. per parker	$ .026	$ .026	$ .026	$ .026
Daily rev. for site	6.71	9.37	16.07	8.06
Annual revenue (306 days)	$ 2055	$ 2870	$ 4920	$ 2470

It is doubtful if any other type of revenue could be derived from the small lots under consideration. The sale of gas and oil on the premises would seem to be out of the question because of the loss of valuable parking space and the cost of the services of an attendant.

COST OF OPERATING CITY PARKING METERS

A recent study of parking meter operations in the City shows that for the 9805 meters installed, the operating cost since installation was $25.70 per meter. This is the total cost of striping, maintenance and collections for all meters from September 1947 to April 1951. The average length of time in operation for all meters was 22.9 months. The cost per meter per month is, therefore, $25.70 divided by the 22.9 months of service or $1.12. This amounts to $13.44 per meter per year.

This is somewhat more than normal operating cost because it includes some capital investment, such as cost of trucks, counting machines, furniture and other equipment and the removal and relocating meters. This capital investment and some of the engineering costs have been spread over a ten year period in deriving the normal operating cost.

The normal annual operating costs for parking meters are as follows:

Striping stalls	$ 2.50
Maintenance and repairs	5.00
Collections	4.50
Total, per meter per year	$12.00

ANNUAL COST OF PARKING LOT OPERATION

In addition to the meter costs, there will be operating costs for sweeping and minor repairs of fencing and other improvements, estimated at $6.00 per stall per year. Overhead expense of the merchants' association may run to about the same amount, giving a total of about $12.00 per stall per year.

The total annual costs for the various proposed sites, including meter costs, are estimated as follows:

TABLE V

ANNUAL OPERATING COST

	Site 1	Site 2	Site 3	Site 4
No. of Stalls	32	32	60	44
Meter Operation	$384	$384	$720	$528
Lot Operation	384	384	720	528
Total Operating Cost	$768	$768	$1,440	$1,056

NET OPERATING INCOME

The net operating income for each parking lot can be determined by deducting operating costs from total income. This is the amount available for interest and amortization of the original investment in land and improvements. The estimated return on the investment will indicate the relative merits of the various sites from the standpoint of debt retirement. The following table summarizes the factors to be considered in comparing the various locations.

TABLE VI

ANNUAL OPERATING INCOME

	Site 1	Site 2	Site 3	Site 4
Investment	$66,400	$184,400	$293,200	$60,200
No. of Stalls	32	32	60	44
No. of Parkers	258	360	618	310
Gross Income	$2,055	$2,870	$4,920	$2,470
Operating Cost	768	768	1,440	1,056
Net Operating Income	$1,287	$2,102	$3,480	$1,414
Return on Investment	1.94%	1.14%	1.19%	2.35%